IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

ATTY.'S DOCKET: GUATA=1

In re Application of:	)	Confirmation No.: 8704
Haim GUATA	)	Art Unit: 2625
Appln. No.: 10/019,558	)	Examiner: T. Pham
Filed: December 31, 2001	)	
For: HANDLING DIFFERENT TYPES OF TELECOMMUNICATION...	)	

DECLARATION OF OLEG LITVAK

I, Oleg Litvak, declare as follows:

(1) I have been employed by Veraz Networks Ltd., as a Voice over IP System Architect, since 2003.

(2) My professional experience and qualifications are explained in the CV attached as Exh. 1 to this declaration.

(3) I have reviewed the above-identified application, including the specification, drawings, and pending claims, and also the prosecution of the application, including the office actions, the cited art, and the responses that have been filed to-date.

(4) In my opinion, one of ordinary skill in the art is a person having a Bachelor of Science degree in electrical engineering, with 2-3 years experience in the telecommunications field.

(5) I understand that the Examiner has taken the position that the claimed invention would have been obvious to one of ordinary skill in the art at the time the invention was made in view of a combination of three references.

(6) I understand that a claimed invention is only obvious based on a combination of prior art if the differences between it and the prior art are such that the subject matter as a whole would have been obvious to a person of ordinary skill in the art at the time the invention was made.

(7) I have been informed and understand that four factual issues are relevant to non-obviousness: (a) the scope and content of the prior art; (b) the level of ordinary skill in the art; (c) the differences between the claimed invention and the prior art; and (d) the presence of certain objective considerations of non- obviousness such as commercial success, a long felt but unsolved need, failure of others, and copying.

(8) I understand that it is impermissible to use the patent as a template (and reason) for combining prior art references as that would be applying hindsight. A person of ordinary skill in the art that have to be motivated to combine references to create the combination of features required by the patent claims.

(9) I understand that a rejection based on obviousness must be supported by a rationale that would have been apparent to a person of ordinary skill in the art for both how and why to combine prior art references to produce the claimed invention at the time of the invention.

(10) Although there may be an apparent motivation to combine prior art references because of the task at hand, a person of ordinary skill in the art would not combine references that literally teach away from each other. Combining such references would likely provide unpredictable results, if the results were workable at all. Moreover, a predictable result that is unsuitable for the task at hand would likewise

provide no motivation for combination. The predictable results would be known to be unusable and therefore the person of ordinary skill in the art would look elsewhere.

(11) I understand that claims 1-6 and 9-15 were rejected under 35 U.S.C. § 103 as being unpatentable over Piasecki (U.S. Patent No. 5,117,453) in view of Jarvinen et al (U.S. Patent No. 6,170,073) and further in view of Ovadia (U.S. Patent No. 5,440,564).

(12) Claim 1 recites "at least one detector operative to receive at least two different types of signals, each associated with a different class of quality of service and to distinguish, for each received signal in its entirety, the type of signal to which it belongs."

(13) The Examiner cited Piasecki, col. 2, lines 20-63 and Fig. 1. However, Piasecki contains no disclosure of any means for detecting signals having a different class of quality of service from one another.

(14) I understand that the Examiner has acknowledged this and cites Jarvinen as allegedly teaching this feature.

(15) In the Office Action, the Examiner asserts that "[i]t is obvious and well known that facsimile data and voice data as taught by Piasecki have different quality of service based upon their type of signals."

(16) Still, even though that Piasecki is concerned with reducing the bandwidth consumed by applying various compression algorithms for various types of signals, Piasecki explicitly teaches that "[m]ultiplexer 31 multiplexes the output of the signal compression stage, comprising ADPCM 25, VBR 28, voiceband data algorithm 27 and facsimile modem 29 into one generally fully populated 2.048 or 1.544 Mbit/s signal" (col.

6, lines 5 – 9). The only teaching provided by Piasecki is to multiplex the various types of signals together, irrespective of their type, and obviously, irrespective of their quality of service.

(17) Furthermore, on page 8, lines 3-6 of the Office Action, the Examiner maintained that "it would have been obvious to add an additional transmission path (BEARER 2) so that voice data is routed to one transmission path, wherein facsimile data is routed to anther transmission path to prevent interference".

(18) In my opinion, contrary to the Examiner's statement, there is no technical problem (e.g., interferences that have to be prevented) to multiplex facsimile signals with voice signals and have them transmitted along the same bearer. Consequently, no person skilled in the art reading the Piasecki publication at the time the present invention was made, would have been motivated based on Piasecki (in combination with any of the other references cited by the Examiner) to divert signals based on their quality of service from the bearer that is taught by Piasecki to carry all types of signals.

(19) In view of the above, it is my opinion that the Examiner's conclusion as stated on page 8, lines 10 -14 that the combined teaching of Piasecki and Jarvinen with Ovadia allows the telecommunication device to route signals along different transmission paths in accordance with their type and on a permanent basis has no basis in the prior art, and if relevant at all this, combination teaches away from the present application, as it would only be understood to provide transient solutions based on current congestion, current physical conditions of the link, etc.

(20) The Action (page 7) states that the Examiner relied on Jarvinen "for the teaching of such well known of an association of each signal with a different class of

quality of service (telecommunication device that includes a detector for detecting different types of signals and to classify signals into different classes based on upon signals quality of services [sic], ..."

(21) This interpretation of Jarvinen is incorrect, and does not reflect how one of ordinary skill in the art would understand the reference or the term "quality of service."

(22) In particular, the term "quality of service" would be understood by one of ordinary skill in the art as follows:

> In a White Paper which Microsoft put out in September 1997, it discussed QoS with the following words:
>
> "What is Quality of Service? In contrast to traditional data traffic, multimedia streams, such as those used in IP Telephony or videoconferencing, may be extremely bandwidth and delay sensitive, imposing unique quality of service (QoS) demands on the underlying networks that carry them. Unfortunately, IP, with a connectionless, "best-effort" delivery model, does not guarantee delivery of packets in order, in a timely manner, or at all. In order to deploy real-time applications over IP networks with an acceptable level of quality, certain bandwidth, latency, and jitter requirements must be guaranteed, and must be met in a fashion that allows multimedia traffic to coexist with traditional data traffic on the same network.
>
> ...
>
> Here's how Network computing of 9.4.2003 defines them: Quality of Service: A way to provide better or stable service for select network traffic through bandwidth or latency control.

Newton's Telecom Dictionary, 24th Ed. (2008), p. 760 (copy attached as Exhibit A).

(23) The term "class of service" referred to in the above-quoted definition would be understood as follows:

> Here are words courtesy of Cisco relating to class of service issues on a packet switched network. "Networks typically operate on a best-effort delivery basis. All traffic has equal priority and an equal chance of being delivered in a timely manner. When congestion occurs, all traffic has an equal chance of being dropped. However, network managers are increasingly presented with a variety of bandwidth-hungry applications that compete for limited bandwidth on the enterprise network. These applications have a variety of characteristics. They may be mission-critical legacy applications with a Web interface, online business-critical applications, or newer multimedia-based applications such as desktop videoconferencing, Web-based training, and voice (telephone) over IP. Some of these applications are vital to core business processes, while many are not. It is the network manager's job to ensure that mission-critical application traffic is protected from other bandwidth-hungry applications, while still enabling less critical applications such as desktop videoconferencing. Enterprises that want to deploy new bandwidth-hungry applications are judging that it is paramount to also ensure the continued success of mission-critical applications over both the LAN and WAN. This can be achieved by defining network policies, which align network resources with business objectives and are enforced by means of QoS (Quality of Service) mechanisms. Without these QoS controls, non-vital applications can quickly exhaust network resources at the expense of more important ones, such as mission-critical applications, thus compromising business processes and certainly productivity. The QoS feature on the Cisco Catalyst 6000 family of switches prioritizes network traffic with IEEE 802.1p class-of-service (CoS) values that allow network devices to recognize and deliver high-priority traffic in a predictable manner. When congestion occurs, QoS drops low-priority traffic to allow delivery of high-priority traffic. Ports can be configured as trusted or untrusted, indicating whether or not to trust the CoS values in received frames to be consistent with network policy. On trusted ports, QoS uses received CoS values. On untrusted ports, QoS replaces received CoS values with the port CoS value."

Newton's Telecom Dictionary, 24th Ed. (2008), p. 234 (copy attached as Exhibit A).

(24) Thus, the quality of service is not related to the type of signals (*e.g.*, facsimile data, voice data, etc.); each type of signal may be assigned a particular QoS by the network administrator to enable high-priority traffic to travel through the network reliably.

(25) Jarvinen teaches one of ordinary skill in the art to classify signals into classes that are indicative of their influence on data quality. *See e.g.*, col. 2, lines 60-61.

(26) In addition, as the Examiner himself has rightfully pointed out, the motivation to carry out the classification of Jarvinen as stated in p. 3 lines 13-20 of the Office Action, is very clear: "[t]his reduces the number of lost signals and reduces the need for bad signal substitution. Additionally, the number of undetected bad signals is reduced and thus signals having the potential to cause degradations in the reconstructed signals are detectable and inhibited from being used for such reconstruction." (Col. 3, lines 34-39.)

(27) However, this is not what the present invention is about. The classification proposed by the present invention is of signals which are associated with services of different quality, in other words, according to the present invention even if the signals were of the highest quality, still, as long as they are associated with a service of lower class of quality, they will always be considered as such and be diverted from the first transmission path, which of course brings a completely different result as the result that would have been obtained by the combination proposed by the Examiner.

(28) Therefore, even if a person skilled in the art would have had the motivation to combine the two references cited by the Examiner, there would have been no suggestion in this combination to lead that person to the present invention, and if at all, such combination teaches away from the present invention, as it leads the person reading the references to choose a classification based on the signal quality and not on the type of service with which that signal is associated.

(29) The Examiner has relied on col. 7, lines 1- 56 and Fig. 2A of Piasecki, stating that they teach "a first transmission means operative to transmit received signals along a first transmission path, and to divert signals of at least one other type selected from said at least two different types of signals". (Office Action, page 2, second to last paragraph).

(30) In my opinion, one of ordinary skill in the art would understand that Piasecki does not teach the diversion of signals to another path, but rather how to adapt the transmission of the signals in accordance with their type.

(31) For example, Piasecki states: "[i]f a facsimile transmission is present detector 53 notifies the main CPU 44 of the trunk channel in which it occurs. If the detection occurs for a trunk signal which is not classified as carrying facsimile signals, then the main CPU 44 marks the trunk channel as a facsimile trunk channel. Until marked otherwise, the trunk channel remains as a facsimile trunk channel. . . ." (Col. 6, line 67 to col. 7, line 5.)

(32) Thus, the signals are not diverted from one path to another; the channel is marked as a channel that carries a different type of signal.

(33) In Piasecki, there is an apparatus for detecting a presence of voice band data signals and an apparatus for detecting the presence of group facsimile signals (column 2, lines 60-62). These apparatuses detect the presence of two different types of signals.

(34) However, one of ordinary skill in the art would understand that the type of signals disclosed in Piasecki do not relate to, *i.e.*, are not associated with a different

class of quality of service (see p. 4, 2nd full paragraph of the substitute specification filed on January 25, 2006 in the present application).

(35) Further, I disagree that one of ordinary skill in the art would have been motivated to combine the teachings of Piasecki and Jarvinen.

(36) Piasecki describes a method and apparatus for interconnecting a plurality of telephone communication trunks to a transmission network (col. 2, lines 20-23), whereas Jarvinen discloses an encoder that encodes digital signals by classifying them into classes indicative of their influence on data quality and subjects them to error detection encoding (see col. 2, lines 57-65).

(37) These are different technologies, involving different problems. One of ordinary skill would not have been motivated to look to Jarvinen to solve problems with the system disclosed in Piasecki.

(38) In Piasecki, only one transmission path is taught linking the transmission station to the other elements in the network.

(39) In contrast, the network according to the Guata claimed invention comprises "at least two transmission paths between the telecommunication station and at least one other element in the network, each path comprising a different link between the telecommunication station and the at least one other element in the network." According to the claimed invention, the types of signals are detected, and channeled, via the switch, through the different transmission paths dependent on the types of signal that is passing through the station.

(40) Guata's claimed invention looks at the entirety of the signal to determine the type of signal passing through the station and channels the signals to different transmission paths dependent on the signal type.

(41) In Jarvinen, the system looks at each bit of the signals individually and classifies each individual bit into classes dependent on the effect that the particular bit has on the quality of the signal. Thus, the entirety of each signal is not classified into types in Jarvinen; only the individual bits of the signal are classified.

(42) Thus, one of ordinary skill in the art would not have been able to obtain the present claimed invention from the combination of the teachings of Piasecki and Jarvinen.

(43) Claim 1 provides that "signals of at least one other type selected from among said at least two different types of signals and associated with a lower class of quality of service are diverted from the first transmission path."

(44) The diversion to which the present claimed invention relates is made not on the basis of the type of signal such as facsimile, speech, tone and non-facsimile voiceband data signals (as in Piasecki: see col. 5, lines 26-31), signal quality (as in Jarvinen: see col. 8, lines 1-10), or on line quality (as in Ovadia: see col. 3, lines 41-45).

(45) Instead, and importantly, Guata's claimed invention diverts signals to a second transmission path based on the class of quality of service associated with specific type(s) of signals.

(46) In particular, the detector is "operative to receive at least two different types of signals, each associated with a different class of quality of service and to distinguish, for each received signal in its entirety, the type of signal to which it belongs"

and "responsive to the channeling by said at least one switch, signals of at least one other type selected from among said at least two different types of signals and associated with a lower class of quality of service are diverted from the first transmission path" and a second transmission means is operative to transmit the diverted signals along a second transmission path.

(47) One of ordinary skill in the art would not understand Guata's claim as requiring that whenever there is a problem with the signal quality, the signal, regardless of its type, should be diverted to the second transmission path.

(48) Instead, according to the present claimed invention, if the network operator defines, *e.g.*, that facsimile signals are associated with a low class of quality of service, all facsimile signals that will be forwarded via the claimed digital communication station of the present invention will always be diverted to the second path, regardless of the current conditions of or at the first path.

(49) In Piasecki, only one transmission path is taught linking the transmission station to the other elements in the network.

(50) In contrast, Guata's claimed invention comprises two transmission paths, each path comprising a different link between the telecommunication station and the at least one other element in the network, and the types of signals are detected, and channeled, via the switch, through the different transmission paths dependent on the types of signal that is passing through the station.

(51) I understand that the Examiner asserts that Ovadia teaches "a telecommunication device having a plurality of transmission paths . . . and to divert . . . signals to an appropriate transmission path . . . to provide an improved data multiplexer

capable from among of a plurality of baud communication rates dependent upon the quality of the communication channel . . . ."

(52) I understand that the Examiner concludes that "Therefore, it would have been obvious to combine Piasecki and Jarvinen with Ovadia to obtain the invention as specified in claim 1."

(53) Ovadia states that the multiplexer is "capable of diverting part of the data being transmitted over a primary communication channel to a second communication channel either in response to increased user data demand or upon the main communication channel degrading below the required data throughput rate." Col. 1, lines 61-66.

(54) Thus, as it would be understood by one of ordinary skill in the art, the disclosure of Ovadia refers to providing a temporary solution to congestion problems or to line deterioration. See, e.g., col. 3, lines 16-17, 26-30 and 41-45, and 55-61.

(55) This is not the same or related to Guata's claimed invention of operating the communication station on a permanent basis, based on the type of the signals and the quality of service associated with that type of signal.

(56) Furthermore, the Ovadia patent teaches away from the claimed invention.

(57) According to Ovadia, all signals entering multiplexer 10 are supposedly of the same type of signals but only have different rates ("multiplexer 10 received data from DTE1-DTE8 which may be operating at various data rates", col. 3, lines 50-51).

(58) However, even if one were to assume, for the sake of argument only, that the signals are of different types, it would only support a finding of non-obviousness, because according to Fig. 1, all signals reach multiplexer 10, and the multiplexer 10

responds to the indicated impairment by reinitializing itself and its complementary multiplexer in system 20 so that the data rate over the leased line 18 is reduced to the level of the degraded line capacity and an additional data stream over the PSTN is established to carry the remaining data (see col. 3, lines 62-66).

(59) Thus, the diversion is of the multiplexed signal.

(60) In order for such a configuration to be at all relevant to the present application, there should be a demultiplexer at the egress of multiplexer 10, together with the signal classification means to allow diversion of data signals from one path to the other based on the quality of service associated with the type of signals.

(61) As it does not make any sense to have a demultiplexer right after a multiplexer, no one skilled in the art would have considered modifying the solution described by Ovadia in a way that could read on the present claimed invention.

(62) On page 8, the Examiner cites col. 1, line 65 through col. 2, line 4, as support for the proposition asserted: "the purpose of adding an additional transmission path as taught by Ovadia to a telecommunications device as taught by Piasecki is to relieve the traffic congestion and to provide an improved data multiplexer capable from among of a [sic] plurality of band communication rates dependent upon the quality of the communications channel", and that therefore Ovadia does not teach away from the claimed invention.

(63) This cited portion use the term "quality of the communication channel". This means, to one of ordinary skill in the art, how clear the channel is, *e.g.*, the amount of noise in the signal transmitted along the channel. This is not the same thing as the "quality of service" ("QOS") parameter of the present claimed invention, which refers to,

as discussed above, "a way to provide better or stable service for select network traffic through bandwidth or latency control."

(64) Further, the present invention does not involve a plurality of baud communication rates – it diverts signals having a particular type and associated with a lower class of quality of service from the first transmission path to the second transmission path.

I declare under penalty of perjury that the foregoing is true and correct.

Respectfully submitted,

Dated: 4-Jan-2009

Oleg Litvak

Oleg Litvak

Qualifications

- Digital Signal Processors, Algorithms, SW Architecture and SW Design
- Modem and FAX Technology
- Voice over Packet (VoIP and VoATM) Transmission Technology
- Communication System Architecture - Conceptions, Simulation, Design and Integration
- Applied Mathematics, Statistics
- LAN and WAN protocols
- Voice and Data Encryption
- Effective Data Transmission, Data Compression Algorythms
- Network Processors
- Voice and FAX Signal Analysis
- Error Correction Codes
- Design of Real Time OS for DSP
- HW Design

I am the inventor of 4 inventions published as patents/patent applications, mainly in the field of efficient voice transmission.

Professional Employment

2003-Now Veraz Networks Ltd. Voice over IP System Architect

Professional Activity:

- VoIP Media Gateways –Architecture and Integration
- DSP SW Design – Freescale and TI DSPs
- DSP Technology - New DSP Evaluation, Selection, SW adaptation
- VoIP security issues, IPSec, SRTP and Voice Encryption
- Network Processor Evaluation, Network Protocols
- Support of Patenting Process – New Applications, Cooperation with Patent Authorities
- Effective Data Transmission, Data Compression Algorythms
- ITU, IETF and MSForum Standards Committee Activity

2001-2002 ECI Telecom - NGTS Ltd. Voice over IP System Architect

Professional Activity:

- VoIP Technology

- VoATM Technology
- Media Gateway System Architecture and Integration
- Network Processing Algorithms
- ITU, IETF and MSForum Standards Committee Activity
- Leader of DSP System Architecture Group

1992-2000 ECI Telecom Ltd.

Professional Activity:

- DSP Algorithms and Programs for Telephony Signal Processing
- Telephony System Design, Implementation and Integration
- Digital Signal Processors and Algorithms
- Voice over Packet (VoATM and VoIP) Transmission Technology
- FAX Modulation and Demodulation
- Signal Analysis - Tone Detectors, Voice Activity Detectors
- Error Correction Codes
- Real Time OS (Include development of RTOS for DSP)
- HW Design (Include ASIC Specifications)
- DSP SW Design (C and Assembler Languages)
- System Simulation and Design
- System Monitoring, Integration and Testing
- Leader of DSP System Team

1975-1991 Scientific Research Institute of Radio. Moscow, USSR. Radio Relay System Division.

Professional Activity:

- Radio Relay System Design, Implementation and Integration
- HW Design for Radio Relay Devices
- Modems for TV Signal
- Modems for Fast Digital Communications (QPSK, 16-QAM and 64-QAM)
- Error Correction Codes and Codec Implementation
- Radio Relay System Simulation And Design
- Leader of System Engineering Team

Education:

1981 - 1984. Post Graduate Studies, State Scientific Research Institute of Radio.

Specialization: Theory, System and Devices for Data Communication.

1977 - 1981. M.E. Engineer - Mathematician, Graduated with Honour.

Moscow Electronic Machine Manufacturing Institute, Department of Applied Mathematics.

1969 - 1977. M.E. Engineer of Radio Broadcasting and Radio Communication.

Moscow Institute of Communication, Radio Broadcasting and Radio Communication Department.